

REMARKS

Claims 1-29 are present in this application. Claims 14-29 have been added. Claims 1, 4, 13, 17, and 29 are independent.

Claim Rejection – 35 U.S.C. § 103; Shirakura, Waibel

Claims 1-6 have been rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,464,358 (Shirakura) in view of U.S. Application 2003/0164819 (Waibel). Independent claims 1 and 4 have been amended. Applicants traverse this rejection based on the claims as amended.

In embodiments of the present invention, parallax information is determined based on an approximation using standard distances (present specification at page 10). Embodiments are disclosed that determine parallax information based on a distance to a subject input by an operation key 204 (present specification at page 11), based on an image's brightness, or intensity of a reflection, in order to obtain parallax information for blocks of the image (present specification at pages 12 and 13, respectively).

In embodiments of the present invention, after parallax information is determined based on the subject, the parallax information is imparted to the image in order to create a three dimensional image (see the paragraph at page 10, lines 8 through 25; in particular lines 17 and 18, which states that the processor 105 "imparts to three dimensional data the parallax information corresponding to angle α ").

Claims 1 and 4 in particular are directed to mobile equipment comprising a pickup device, and in the case of claim 4, a single pickup device, and an associated display unit. Claims 1 and 4 originally recited “a three dimensional image creation portion providing said image with parallax information to create a three dimensional image.” Although Shirakura does appear to disclose a plurality of original image obtained by picking up an object from different observation points (col. 1, lines 21-24), Shirakura does not appear to disclose a mobile equipment comprising a pickup device. The Office Action admits that Shirakura does not teach the claimed pickup device, and instead relies on Waibel for making up for the deficiency.

Applicants submit that Shirakura does not teach a three dimensional image creation portion for providing a picked up image with parallax information. However, it appears that this claimed feature has not been interpreted as intended by Applicants.

The Office Action relies on Figure 7 of Shirakura for showing the claimed three dimensional image creation portion and display unit. The Office Action also relies on a statement that,

“when this holographic stereogram is visually observed by an operator, two-dimensional images respectively projected on the left and right eyes are slightly different from each other. As a result, the operator feels parallax so a three-dimensional image is reproduced.” (col. 1, lines 30-34)

The invention disclosed in Shirakura is an improved apparatus for “reproducing” an image that had been recorded as a hologram, or images recorded as a holograph stereogram. For

example, the image reproducing apparatus reproduces an image by irradiating illumination light to a hologram or holographic stereogram (“Technical Field”).

Thus, unlike Shirakura’s holographic stereogram, the claimed mobile equipment of the present invention starts with a picked up image without parallax information and provides the picked up image with parallax information. As mentioned above, parallax information is disclosed as being separately determined based on a distance to a subject input by an operation key 204, based on an image’s brightness, or intensity of a reflection.

Because of the apparent unintentional interpretation that the claims recite a picked up image having parallax information is used to create a three dimensional image, the independent claims 1, 4, and 13 have been amended to clarify the intended claim interpretation. In particular, the claims have been amended to clarify that parallax information is separately determined, and that the three dimensional image creation portion creates a three dimensional image by applying the parallax information to the picked up image.

Applicants submit that Shirakura fails to teach or suggest at least the claimed mobile equipment comprising “parallax information portion determining parallax information of said subject” and “three dimensional image creation portion creating a three dimensional image by applying said parallax information to said image.”

Thus, Shirakura and Waibel, either alone or in combination, fail to teach each and every claimed element. Applicants request that the rejection be reconsidered and withdrawn.

Claim Rejection – 35 U.S.C. § 103; Shirakura, Waibel, Aoki

Claims 7-13 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Shirakura and Waibel, and further in view of U.S. Application 2002/0054032 (Aoki). Independent claim 13 has been amended in a manner comparable to claims 1 and 4. Applicant traverses this rejection based on the claims as amended.

Aoki is relied on for teaching the step of cutting a human face out of a two dimensional image. However, Aoki does not make up for the deficiencies mentioned above for Shirakura and Waibel.

For reasons above related to claims 1 and 4, Applicant requests that the rejection be reconsidered and withdrawn.

New Claims

Claims 14-29 have been added. Claims 14 through 16 cover further features of the parallax information portion. Applicants submit that for the reasons above for claim 1, claims 14 through 16 are patentable as well.

Claims 17 and 29 recite details of the operation of the three dimensional image creation portion in terms of generating three dimensional data from two dimensional data and converting the three dimensional data into image data for the right eye and image data for the left eye. Applicants submit that Shirakura's reproducing apparatus does not disclose the generation of three dimensional data as claimed. Furthermore, Applicants submit that neither Shirakura nor Waibel teach a display unit of the portable information system for displaying a three dimensional

display. Dependent claims have been added that recite further features of the display unit of the present invention. Applicants submit that the new claims are patentable over the prior art cited in the Office Action.

Conclusion

In view of the above amendment, Applicants believe the pending application is in condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Robert W. Downs (Reg. No. 48,222) at the telephone number of (703) 205-8000, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

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